

AMENDMENTS TO THE CLAIMS

1-16. (Canceled)

17. (Currently amended) A reader interfacing device, ~~comprising a~~ configured to:
establish a first communication path between with a reader configured to emit and
receive interrogating radiation at a first radiation frequency[[,]] ; and

establish a second communication path with a remote tag or smart label configured to be
interrogated using radiation of a second frequency different from the first frequency by at least
an order of magnitude[[,]] ;

wherein the reader being operable to communicate through the device to the remote tag
or smart label interfacing device is further configured to receive the interrogating radiation at the
first radiation frequency from the reader, translate the received interrogating radiation into an
output signal, and radiate the output signal at the second radiation frequency to the remote tag or
smart label.

18. (Currently amended) The reader interfacing device ~~according to~~ of claim 17,
~~including comprising a power conversion means for converting~~ converter configured to convert
the interrogating radiation received ~~at the device~~ from the reader [[to]] and thereby generate
power supply potentials for powering the reader interfacing device, wherein the generated power
supply potentials are supplemental to power provided from an external source.

19. (Currently amended) The reader interfacing device ~~according to~~ of claim 17,
wherein the reader interfacing device is further configured to be mutually magnetically coupled
to the reader for receiving the interrogating radiation therefrom and for providing a modulated
load thereto for communicating back to the reader.

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20. (Currently amended) The reader interfacing device ~~according to~~ of claim 19, ~~wherein the device includes comprising~~ a first loop antenna ~~[[for]]~~ configured to magnetically ~~coupling couple~~ to a corresponding second loop antenna of the reader.

21. (Currently amended) The reader interfacing device ~~according to~~ of claim 20, wherein the reader interfacing device ~~incorporates~~ further comprises a modulated ~~field~~ field-effect transistor connected to the first loop antenna ~~for providing and configured to provide~~ a variable load detectable at the reader.

22. (Currently amended) The reader interfacing device ~~according to~~ of claim 17, wherein the second frequency is in a range of 300 MHz to 90 GHz.

23. (Currently amended) The reader interfacing device ~~according to~~ of claim 22, wherein the reader interfacing device is further configured to emit radiation to the remote tag or smart label and receive radiation therefrom using patch antennas.

24. (Currently amended) The reader interfacing device ~~according to~~ of claim 22, wherein the second frequency is substantially in a range of 2 GHz to 3 GHz.

25. (Currently amended) The reader interfacing device ~~according to~~ of claim 17, ~~including translating means for converting~~ comprising a translator configured to convert between a modulation format used by the reader for modulating information onto the interrogating radiation to be received by the reader interfacing device and a modulation format used by the remote tag or smart label for communicating ~~therefrom~~ to and from the reader interfacing device.

26. (Currently amended) The reader interfacing device ~~according to~~ of claim 25, wherein the ~~translating means includes~~ translator comprises:

an amplitude demodulator ~~for demodulating~~ configured to demodulate a first received signal generated in the reader interfacing device in response to receiving ~~thereat~~ the interrogating radiation from the reader and thereby generating a first demodulated signal, ~~the translating means further including ; and~~

a modulator ~~supplied with~~ configured to receive a carrier signal at the second frequency and ~~operable to~~ modulate the carrier signal with the first demodulated signal to generate radiation for interrogating the remote tag or smart label.

27. (Currently amended) The reader interfacing device ~~according to~~ of claim 26, wherein the ~~translating means includes~~ translator further comprises a demodulator ~~[[for]]~~ configured to heterodyne mixing mix a second received signal generated in response to receiving radiation from the remote tag or smart label with the carrier signal to generate a second demodulated signal for use in providing load modulation detectable at the reader.

28. (Currently amended) The reader interfacing device ~~according to~~ of claim 27, wherein the carrier signal is generated by a microwave oscillator frequency locked to the first frequency.

29. (Currently amended) The reader interfacing device ~~according to~~ of claim 17, ~~wherein the reader includes optical interfacing means for providing~~ further configured to establish the first communication path between the reader and the device with an optical reader via an optical interface.

30. (Currently amended) The reader interfacing device ~~according to~~ of claim 29, wherein the reader interfacing means includes device further comprises a laser scanner and a liquid crystal display (LCD), wherein the laser scanner being operable is configured to scan

information presented on the ~~display~~ LCD to provide information for exchange between the optical reader and the reader interfacing device.

31. (Currently amended) The reader interfacing device ~~according to~~ of claim 17, ~~including comprising an optical interfacing means for providing interface configured to establish~~ the second communication path between the reader interfacing device and the remote tag or smart label.

32. (Currently amended) A ~~remote tag or smart label for use with a reader interfacing device system,~~ comprising:

a reader interfacing device;

a reader configured to emit and receive interrogating radiation at a first radiation frequency, ~~the~~ ; and

a remote tag or smart label being configured to be interrogated using receive radiation ~~[[of]]~~ at a second frequency different from the first frequency by at least an order of magnitude~~[[,]]~~ ;

wherein the reader being operable is further configured to communicate through the reader interfacing device to the remote tag or smart label, and wherein the remote tag or smart label incorporating amplifying means for reflectively amplifying a received signal generated therein in response to receiving the interrogating radiation from the device, the amplified received signal being useable for providing response radiation receivable at the device is configured to generate a return signal at the first radiation frequency that is translated into an output signal by the reader interfacing device and communicated to the reader as radiation at the second radiation frequency.

33. (New) The system of claim 32, wherein the reader interfacing device is configured to be mutually magnetically coupled to the reader for receiving the interrogating

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radiation therefrom and for providing a modulated load thereto for communicating back to the reader.

34. (New) The system of claim 33, wherein the reader interfacing device comprises a translator configured to convert between a modulation format used by the reader for modulating information onto the interrogating radiation to be received by the reader interfacing device and a modulation format used by the remote tag or smart label for communicating to and from the reader interfacing device.

35. (New) A reader interfacing device, comprising:

- means for emitting and receiving radiation at a first frequency to establish a first communication path with a reader;
- means for emitting and receiving radiation at a second frequency to establish a second communication path with a remote tag or smart label configured to be interrogated using radiation at the second frequency, wherein the second frequency is different from the first frequency by at least an order of magnitude;
- means for translating radiation received from the reader at the first frequency into a first output signal to be radiated at the second frequency to the remote tag or smart label; and
- means for translating radiation received from the remote tag or smart label at the second frequency into a second output signal to be radiated at the first frequency to the reader.

36. (New) The reader interfacing device of claim 35, further comprising a means for converting the interrogating radiation received from the reader to thereby generate power supply potentials for powering the reader interfacing device, wherein the generated power supply potentials are supplemental to power provided from an external source.